REMARKS

Reconsideration and allowance of the subject application are respectfully requested. Upon entry of this Amendment, claims 1-6 are pending in the application. In response to the Office Action (Paper No. 10), Applicant respectfully submits that the pending claims define patentable subject matter.

Applicant thanks the Examiner for indicating that dependent claims and 4 would be allowable if rewritten in independent form. However, Applicant respectfully requests the Examiner to hold in abeyance the rewriting of these claims until the Examiner has had the opportunity to reconsider the rejected parent claims in light of the arguments presented below in support of the Applicant's traverse of the rejection.

I. Preliminary Matters

The drawings are objected to because the Examiner maintains that the blocks in Figures 4-7 are missing labels as to what each of the blocks represents. Further, the Examiner contends that in order to indicate more than two data sequences, vertical dots should be shown between the data sequences ST1 and STK, ST'1 and ST'K, ST"1 and ST"K linking blocks 2, 3 and 4 in Figure 4, and between the data sequences SR1 and SRK linking blocks 9 and 10 in Figure 5. Along with this Amendment, Applicant is submitting a Proposed Drawing Correction labeling each of the blocks in Figures 4-7 and adding dots between the data sequences in Figure 4 and 5, as requested by the Examiner.

The Examiner maintains that Figure 8 misrepresents the length of sequences S, S' and S" in that the sequences S, S' and S" appear to be equal. However, Applicant notes that QMAX/Qk

designates a number of symbols in the sequence S, while QMAX designates a number of "basic symbols" or chips in the sequence S', and the chip-rate is Qk times higher than the symbol-rate (as appears from the specification). Further, Applicant is submitting a Proposed Drawing Correction for Figure 8 wherein the vertical lines extending below each of the blocks do not extend all the way to the block immediately below.

The Examiner maintains that on page 9, lines 9-11 of the specification the reference number "8" is used for the means for descrabling and the means for despreading. By this Amendment, Applicant has amended the specification to use the reference number "9" with regards to the means for despreading.

The Abstract is objected to because the Examiner maintains that the abstract should not contain legal phraseology such as the term "means". By this Amendment Applicant has the abstract to remove legal phraseology and improve clarity.

The specification is objected to because the Examiner maintains that specification contains grammatical informalities. By this Amendment, Applicant has amended the specification to improve clarity.

Accordingly, the Examiner is respectfully requested to remove the objection to the drawings, specification and abstract.

II. Prior Art Rejection of claims 1, 3, 5 and 6

Claims 1, 3, 5 and 6 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Bottomley (WO 9605668) in view of Popovic (USP 6,393,047). In particular, the Examiner

maintains that Bottomley discloses all of the features of independent claim 1 except for "a device enabling different spreading factors with a common spreading code, or scrambling with a code of length Q_{MAX}, which is a multiple of any of the spreading factors." However, the Examiner asserts that Popovic discloses those features of claim 1 missing from Bottomley in that "Popovic discloses a CDMA system to support variable rate transmission services that use spreading codes whose length is an integer multiple of each spreading factor [and] Popovic states that the spreading code can also be a scrambling code." Applicant respectfully submits that claims 1, 3, 5 and 6 would not have been rendered obvious in view of the combined references.

Contrary to the present application, Bottomley does not enable different spreading factors while preserving a common scrambling code. Moreover, Bottomley is even not concerned with the use of different spreading factors. Bottomley discloses nothing more than the use of scrambling together with spreading (this is not the subject of the present invention).

The term "common scrambling code" in Bottomley does not have the same meaning as in the present application. In Bottomley, the term "common scrambling code" means that scrambling is used on top of spreading, or that a scrambling code is "common" to a set of spreading sequences (see, for example, page 10 lines 19-23: "Applicant's system employing such scrambling masks avoids the disadvantages of a conventional orthogonal system. First, it can recover lost "soft capacity", viz., increase the number of channels in a cell from N spreading sequences to kN spreading sequences, by scrambling the original N orthogonal spreading sequences with each of k different scrambling masks").

Contrary to the present application, Bottomley is not concerned with the use of different spreading factors. Bottomley (page 9, lines 15-16) teaches that the scrambling code (scrambling mask) has the same length as the spreading codes (codewords). In Bottomley, all spreading codes have the same length, in which case, the length of the spreading codes (as meant in page 9 lines 15-16) has a sense, and the scrambling code can be a common scrambling code having a length equal to this length.

On the other hand, in the present invention, all spreading codes do not have the same length, in which case the length of these spreading codes has no sense, and the scrambling code cannot be a scrambling code having a length equal to this length. When all spreading codes do not have the same length, a solution could be not to use a common scrambling code, i.e. to use different scrambling code lengths. However, as indicated in the present application, this would in particular raise problems in the case where algorithms such as for example subtractive detection algorithms or joint-detection algorithms are used. The present invention, in particular, is directed to solving this problem. According to the present invention, a common scrambling code is used, having a length (Qmax) equal to a multiple of the different spreading code lengths.

With regards to Popovic, the Examiner indicates that "Popovic states that the spreading code can be a scrambling code (col.1 lines 19-21)". Popovic (col. 1, lines 19-21) teaches that "the spreading signal is usually called a spreading or scrambling code or sequence" (emphasis added). The underlined term "or" is significant because it means that scrambling is not combined with spreading, i.e. "scrambling" is here envisaged alone, and then, in itself, having a function of spreading.

Accordingly, Applicant respectfully submits that claims 1-6 should be allowable because (1) the applied references, alone or in combination, do not teach or suggest all of the features of the claims, and (2) one of ordinary skill in the art would not have been motivated to combine and modify the applied references to produce the claimed invention.

III. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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